

AN - 1982-A9869J [50]

TI - Electron beam or laser welding of valve push rods - uses inner guard ring to ensure full weld penetration

AB - EP--66004 A valve push rod (10) is made from a tube (12) of case-hardening steel with an end cap forming the cam follower, being made of tool steel or high speed steel. The end cap (16) is attached to the tube by welding or brazing using an electron beam or a laser.

- In order to ensure full penetration but avoiding the formation of a notch which could cause a fracture in service, a guard ring (22) is used. This guard ring has one end fitting inside the tube and the other inside the end cap. The weld penetrates to the surface of the ring which is then welded to both tube and cap.(1/4)

IW - ELECTRON BEAM LASER WELD VALVE PUSH ROD INNER GUARD RING  
ENSURE FULL WELD PENETRATE

PN - EP0066004 A 19821208 DW198250 Ger 013pp

- DE3121296 A 19821223 DW198301 000pp

- EP0066004 B 19860416 DW198616 Ger 000pp

- DE3174394G G 19860522 DW198622 000pp

IC - F01L1/14

DC - Q51

PA - (WIZE ) WIZEMANN GMBH & CO J

IN - PFIZ M; WIZEMANN K

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PR - DE19813121296 19810529

# Fig. 1

